

**VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY
WEST CENTRAL REGIONAL OFFICE**

**FACT SHEET
FOR PROPOSED PERMITTING ACTION
UNDER 9 VAC 5 Chapter 80 Article 1 (TITLE V-CLEAN AIR ACT)**

APPLICANT:

VA-30284

AIRS ID 51-089-0033

Bassett Furniture Industries

Bassett Table Co. and Bassett Superior Lines

P.O. Box 626

Bassett, VA 24055

FACILITY LOCATION:

85 Trent Hill Drive, Bassett

UTM Coordinates are ZONE: 17 EASTING: 591.4 km NORTHING: 4067.5 km

FACILITY DESCRIPTION:

The Bassett Table Co. and Bassett Superior Lines facility is a manufacturer of finished wood furniture and unfinished wood furniture parts covered by Standard Industrial Classification (SIC) Code 2511 [North American Industry Classification System (NAICS) Code 337122]. Operations at the facility can be conducted twenty-four (24) hours per day, seven (7) days per week, fifty-two (52) weeks per year. Wood furniture and furniture parts are manufactured at the facility from rough-cut wood that is dried, milled, machined, sawed, and sanded. Furniture and parts are assembled, furniture is finished, and the furniture and parts are shipped.

Source Description

This source consists of 2 plants, Bassett Table Co. and Bassett Superior Lines, which are operated by Bassett Furniture Industries as two separate facilities. The two facilities belong to the same industrial group, are adjacent, and are under common ownership; therefore, they are considered as one stationary source. Each facility has its own manager. Due to financial conditions, the Bassett Table Co. plant has been temporarily shut down, however, this Title V permit will be issued for the entire source including Bassett Superior Lines and Bassett Table Co.

Portions of the source are covered by a permit while other portions of the source have never been permitted. Currently permitted emissions units are woodworking dust collection systems T-WW2, T-WW6, S-WW1, S-WW10, and S-WW12 (9/2/99). Non-permitted emissions units include 2 wood/coal-fired boilers (each 75 MMBtu/hr), 8 wood drying kilns, 16 woodworking dust collection systems, 3 finishing lines, a print line, a basecoat line, offline spray booths, dipping operations and gluing operations.

Rough cut green hard wood is brought to the facility where it is dried in kilns. Primarily hardwoods are dried in the kilns, but they have the capability to also dry softwoods. Steam for the kilns is supplied by the boilers. Furniture components are made from the dry wood by milling, machining, sawing, and sanding. All of the wood dust is collected by the facilities dust collection systems. Fabric filters control all emissions from the dust collection systems. The wood dust is used as fuel in the boilers and is stored in a silo. Six of the dust collection systems are permitted.

The furniture components that are assembled use various adhesives, such as hot melt and white glue (similar to Elmer's), which contain little or no VOCs. Some of the VOC emissions from the gluing operations are emitted from spray booth stacks, while other emissions are fugitive in nature. The furniture assembly adhesive VOC emissions are not permitted.

The furniture is finished using either of 3 finishing lines, off line spray booths, a print line, and dipping tanks, which use solvent based finishes. The finishing lines consist of spray booths and drying ovens. Heat for the ovens is supplied by steam from the boilers. There are no controls for VOC emissions. In accordance with a state consent order signed on May 7, 2001, Bassett has installed baffle particulate filters on two spray booths at the Superior Lines plant. Particulate emissions from the remainder of the finishing lines and off line booths are uncontrolled.

Process and space heat for the facility is provided by the two facility boilers. Both the 75.0 MMBtu/hr Union Iron Works boiler and the 75.0 MMBtu/hr Keeler boiler burn wood as fuel, with coal as a backup fuel. Particulate emissions from the Union and Keeler boilers are controlled by respective multicyclones. The boilers are not permitted.

Compliance History

A review of DEQ inspection reports for the past 5 years was conducted. Inspection reports indicate the source has been in compliance, with two exceptions. During this time period there has been one letter of noncompliance (LON) issued, one warning letter issued, and one notice of violation (NOV) issued. The LON was issued in December 1997 to Bassett Superior Lines for failure to maintain records of glue usage required by a permit. The source contended that the records had been lost. The records were reconstructed by the source. This permit has since been rescinded. Issuance of the warning letter was on April 7, 2000 for inability to provide records and for fugitive wood dust emissions. The NOV was issued April 7, 2000 for a violation of the Wood Furniture MACT Work Practice Standards at Bassett Table. To resolve the issues addressed in the NOV, Bassett Furniture Industries has paid a fine and installed particulate filters on two spray booths at the Superior Lines plant. There were several Requests for Corrective Action issued during the 5-year time frame for minor fugitive wood dust emissions. In each case, corrective action was taken by the source to correct the problems.

In early April 1997 the US EPA issued a §114 letter to the source requiring that particulate emission testing be conducted on the Union (Ref. # BL1) boiler and issued a NOV for violations of the visible emissions regulations. Testing at both low and high steam production rates was conducted in early June 1997. The EPA calculated that the particulate limit according to 9 VAC 5-40-900 was 0.297 pounds per million Btus of heat input. The Union boiler exceeded the particulate limit. An NOV was issued by the EPA for failure to meet the particulate standard and the EPA issued a §114 letter requiring particulate testing on the Keeler (Ref. # BL2) boiler and requested records of any previous testing done. The Keeler boiler had been tested by the source in May 1997 at which time it exceeded the particulate limit. After some maintenance and repair the boilers were retested. Both the Union and Keeler boilers met the particulate limit. On October 15, 1999 a Consent Decree was entered into between the United States of America, on behalf of the EPA, and Bassett Furniture Industries, Inc. for exceeding the allowable particulate emission limit. The Consent Decree outlined a series of compliance requirements for the source's boilers. These include the establishment of an Environmental Management Plan, boiler instrumentation maintenance, boiler operator training, and boiler maintenance recordkeeping. As part of the Decree, Bassett implemented a Supplemental Environmental Project (SEP) to install 3 baghouses to replace 4 cyclones at Bassett Table and to install 1 baghouse to control emissions from wood grinding and as an after filter to a cyclone at Bassett Superior.

On July 30, 1999 the source received a permit for 4 woodworking dust collection systems to remove reference to specific woodworking equipment. This permit superseded permits dated June 20, 1988 and November 21, 1994 for Bassett Table and April 27, 1988 and February 7, 1997 for Bassett Superior. On September 2, 1999 this permit was superseded with the new permit adding another dust collection system.

EMISSIONS SUMMARY:

PLANTWIDE EMISSIONS SUMMARY [TONS PER YEAR]	
CRITERIA POLLUTANTS	1999 ESTIMATED EMISSIONS
Particulate Matter (PM ₁₀)	22.0
Nitrogen Oxides (NO _x)	27.0
Sulfur Dioxide (SO ₂)	3.5
Carbon Monoxide (CO)	37.0
Volatile Organic Compounds (VOC)	886.8
HAZARDOUS AIR POLLUTANTS	
Combined HAPs	Greater than 25

TITLE V PROGRAM APPLICABILITY BASIS:

This facility has the potential to emit greater than 100 tons per year of VOCs and greater than 25 tons per year of HAPs. Due to this facility's potential to emit Bassett Table/Bassett Superior is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 9 VAC 5 Chapter 80 Article 1.

Applicable Requirements

Emissions Standards and Visible Emission Requirements

Fuel Burning Equipment (BL1 & BL2)

A 75 MMBtu/hr Union Iron Works wood/coal-fired boiler (BL1) and a 75 MMBtu/hr Keeler wood/coal-fired boiler (BL2) provide steam for process and space heat at the facility. The Union boiler was installed around 1957 and the Keeler boiler in approximately 1968. Both the Union boiler and the Keeler boiler are equipped with a multicyclone for particulate control. These boilers are considered existing equipment because of their installation prior to March 17, 1972. Emission limits for the Union and Keeler boilers are based on 9 VAC 5 Chapter 40 Article 8 (Rule 4-8) for existing sources, because they were in operation prior to October 5, 1979. PM, PM-10, and SO₂ are the regulated pollutants. The particulate standard for these boilers uses the combined heat capacity for the two boilers (H=150 MMBtu/hr) and the formula in 9 VAC 5-40-900 ($E=1.0906 \cdot H^{0.2594}$) to calculate an emission limit of 0.297 lb/MMBtu of heat input. SO₂ emissions for the Union and Keeler boilers are limited by 9 VAC 5-40-930 at 2.64 lb/MMBtu, which equates to 198.0 lbs/hr for each boiler. Kiln dried wood is the primary fuel used by the boilers, with coal used only for backup. The dry wood fuel is stored in a silo. Coal used in the boilers normally has a sulfur content of 1% or less. The sulfur content of the coal would have to be greater than 1.8% to exceed the SO₂ standard. Consent Decree (dated 10/15/99) requirements for maintenance, inspection, operator training, and operational records for the boilers and control devices are to insure that the boilers are operating properly. Records of the quantities of fuels used are also required by the Consent Decree. Fuel specifications for sulfur content are required to assure compliance with the emissions standard for SO₂. Both boilers have been tested for particulate recently and are meeting the emission limit. The Consent Decree requires that the boilers be tested at least once every three years to assure compliance with the particulate standard. With the controls, required recordkeeping, and required maintenance inspections it is felt that the margin of compliance is sufficient to assure compliance with the regulated standards.

Visible emissions for the Union and the Keeler boilers are limited to 20% opacity, except for one six-minute period per hour of 60% opacity. Included in the Title V permit is the requirement that the source develop maintenance, inspection, and training programs to insure the proper operation of the boilers and control devices. Inspections of the control devices shall be annual at a minimum. Monitoring of opacity, required by the Consent Decree dated 10/15/99, will require the source to at least one time per week observe for the presence of visible emissions from the

boiler stacks. If visible emissions are present, a visible emission evaluation (VEE) must be conducted in accordance with EPA Method 9 (reference 40 CFR 60, Appendix A) for a minimum of six (6) minutes. If any of the observations exceed the opacity limitation of 20%, the observation period shall continue until a total of sixty (60) minutes of observation have been completed. Timely corrective action shall be taken, if necessary, such that the boiler resumes operation within the 20% opacity limit. The source must maintain a boiler stack observation log to demonstrate compliance. The log will include the date and time of any observations, whether or not there were visible emissions, the results of all VEEs, and any necessary corrective action.

Woodworking (T-WW & S-WW)

All wood dust systems at the facility are controlled by fabric filters or closed looped systems controlled by a fabric filter. Five of the 21 wood dust systems are permitted (T-WW2, T-WW6, S-WW1, S-WW10, and S-WW12 permitted 9/2/99). Emission limits for the source's NSR permit are for PM-10 emissions. PM-10 is a regulated pollutant. The NSR permit requires that particulate emissions from the permitted dust collection systems be controlled by fabric filters. Several cyclones are used by the source as precleaners, but all are either in closed loops or discharge to a fabric filter. PM-10 limits for the permitted dust systems are based a particulate load of 0.01 gr/dscf and limited hours of operation. The particulate loading of 0.01 gr/dscf is easily attained when controlled by fabric filters that are operated properly and are below their capacity¹. The unpermitted dust systems must meet the particulate loading standard of 0.05 gr/dscf, as required by 9 VAC 5-40-2270. Again, this is easily attained when controlled by a fabric filter. With the limits on hours of operation, required controls, required recordkeeping, required maintenance inspections, and conservative emissions limits it is felt that the margin of compliance is sufficient to assure compliance with the permitted limits and regulated standard.

Visible emissions from the fabric filter exhausts of the five permitted dust systems are limited to 5% opacity. Visible emissions from the non-permitted dust system fabric filter exhausts are limited to 20% opacity by 9 VAC 5-40-80. Under normal operations there are no visible emissions from the fabric filter exhausts. Any visible emissions would be because of a malfunction or poor operations and maintenance. Included in this permit are the requirements that the source develop maintenance, inspection, spare parts, and training programs to insure the proper operation of the fabric filters. Inspections of the fabric filters shall be monthly at a minimum. Monitoring of opacity, required by the Consent Decree dated 10/15/99, will require the source to at least one time per week, observe for the presence of visible emissions from the fabric filters, log the observations, and take corrective action if necessary to minimize emissions. With the low potential emissions, it is felt that these maintenance and operation procedures will assure compliance with the opacity standard.

¹ When operating properly at 99.9% control efficiency emissions should be approximately 0.005 gr/dscf.

Finishing Room (T-FN1 & S-FN1)

Both Bassett Table and Bassett Superior have finishing operations. Finishing at Bassett Table (T-FN1) takes place on one of the two finishing lines and associated off-line operations. Finishing at Bassett Superior (S-FN1) takes place on one finishing line and associated off-line operations, one print line, or one basecoat line. Finishing from T-FN1 and S-FN1 is not covered by any NSR permit, however, spray booths #8 and 13 at Superior Lines have installed baffle particulate filters in accordance with a state consent order signed on May 7, 2001. Emissions from the finishing spray booths are PM and VOCs. There are fugitive VOC emissions from the off-line dipping and wash off tanks.

Visible emissions from the spray booths of finishing operations are limited to 20% opacity, by 9 VAC 5-40-80. In order to assure compliance the Title V permit requires the source to develop maintenance and training programs to insure the proper operation of the spray booths. To monitor opacity, as required by the Consent Decree dated 10/15/99, this permit will have the source, at least weekly, observe for any visible emissions, log the observation, and take corrective action if necessary to minimize emissions. It is felt that the monitoring will assure compliance with the opacity standard.

Visible emissions from the exhaust vents are limited to 20% opacity, by 9 VAC 5-40-80 and 9 VAC 5-50-80. To monitor opacity this permit will have the source, at least weekly, observe for any visible emissions, log the observation, and take corrective action if necessary to minimize emissions. It is felt that the monitoring will assure compliance with the opacity standard.

MACT requirements

Because this source has the potential to emit greater than 10 tons/yr of any single HAP and/or 25 tons/yr of any combination of HAPs it is subject to the MACT for furniture finishing. The source emitted greater than 50 tons of HAPs in 1996, therefore, its compliance date for the MACT was November 21, 1997. The source intends to use compliant coatings to meet the emission standards required by the MACT, however, the averaging method of compliance is still available to the source should it be needed. As the source does not intend to use a control device to meet the emission standards, those portions of the MACT requirements dealing with control devices have not been included in this Title V permit. The source has submitted its initial compliance certification and to date has submitted its required continuous certifications.

Insignificant Activities

The insignificant activities for this facility consist of storage tanks for a variety of lacquers, thinners and other finishing materials and are categorized under 9 VAC 5-80-720 B (Emission Units with Insignificant emissions levels). The gluing operations utilize mostly water-based glues and are also considered to be an insignificant source of VOC and HAP emissions. Bassett Furniture Industries

would have to report significant HAP emissions from gluing for MACT compliance if this were not the case.

The 8 dry kilns are existing equipment and are not covered by a NSR permit. The source dries primarily hard woods and is therefore considered to be an insignificant source of VOC emissions as demonstrated below:

$$\frac{29,600,000 \text{ bd-ft hard wood}}{\text{yr.}} \times \frac{0.211 \text{ lb.VOC}}{1000 \text{ bd-ft}} = \frac{3.1 \text{ tons VOC}}{\text{yr.}}$$

Generally Applicable Requirements

Visible emissions from any emissions unit not specifically listed can not exceed 20% opacity. This is in accordance with 9 VAC 5-40-80.

Inapplicable Requirements

The startup, shut down and malfunction opacity exclusion listed in 9 VAC 5-40-20 A 3 cannot be included in any Title V permit. This portion of the regulation is not part of the federally approved state implementation plan. The opacity standard applies to existing sources at all times including startup, shutdown, and malfunction. Opacity exceedances during malfunction can be affirmatively defended provided all requirements of the affirmative defense section of this permit are met. Opacity exceedances during startup and shut down will be reviewed with enforcement discretion using the requirements of 9 VAC 5-40-20 E, which state that "At all times, including periods of startup, shutdown, soot blowing and malfunction, owners shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with air pollution control practices for minimizing emissions."

State-only Requirements

None

Compliance Plan

Source is not subject to a compliance plan but is subject to term of a Consent Decree dated October 15, 1999.

LEGAL AND FACTUAL BASIS FOR DRAFT PERMIT CONDITIONS:

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the Commonwealth of Virginia Federal Operating Permit Regulations for the purposes of Title V of the Federal Clean Air Act (9 VAC 5 Chapter 80 Article 1), and underlying

applicable requirements in other state and federal rules. Applicable requirement means all of the following as they apply to emission units in a Title V source:

- a. Any standard or other requirement provided for in the State Implementation Plan or the Federal Implementation Plan, including any source-specific provisions such as consent agreements or orders.
- b. Any term or condition of any preconstruction permit issued pursuant to 9 VAC 5-80-10, Article 8 (9 VAC 5-80-1700 et seq.) of this part or 9 VAC 5-80-30 or of any operating permit issued pursuant to 9 VAC 5 Chapter 80 Article 5, except for terms or conditions derived from applicable state requirements or from any requirement of these regulations not included in the definition of applicable requirement.
- c. Any standard or other requirement prescribed under these regulations, particularly the provisions of 9 VAC 5 Chapter 40 (9 VAC 5-40-10 et seq.), 9 VAC 5 Chapter 50 (9 VAC 5-50-10 et seq.) or 9 VAC 5 Chapter 60 (9 VAC 5-60-10 et seq.), adopted pursuant to requirements of the federal Clean Air Act or under §111, 112 or 129 of the federal Clean Air Act.
- d. Any requirement concerning accident prevention under §112(r)(7) of the federal Clean Air Act.
- e. Any compliance monitoring requirements established pursuant to either §504(b) or §114(a)(3) of the federal Clean Air Act or these regulations.
- f. Any standard or other requirement for consumer and commercial products under §183(e) of the federal Clean Air Act.
- g. Any standard or other requirement for tank vessels under §183(f) of the federal Clean Air Act.
- h. Any standard or other requirement in 40 CFR Part 55 to control air pollution from outer continental shelf sources.
- i. Any standard or other requirement of the regulations promulgated to protect stratospheric ozone under Title VI of the federal Clean Air Act, unless the administrator has determined that such requirements need not be contained in a permit issued under this article.
- j. With regard to temporary sources subject to 9 VAC 5-80-130, (i) any ambient air quality standard, except applicable state requirements, and (ii) requirements regarding increments or visibility as provided in Article 8 (9 VAC 5-80-1700 et seq.) of this part.
- k. Any standard or other requirement of the acid deposition control program under Title IV of the

Clean Air Act or the regulations promulgated thereunder.

- I. Any standard or other requirement governing solid waste incineration under §129 of the Clean Air Act.

Each State and Federally-enforceable condition of the draft Title V Operating Permit references the specific relevant requirements of 9 VAC 5 Chapter 80 Article 1 or the applicable requirement upon which it is based. Any condition of the draft Title V permit that is enforceable by the state but is not federally-enforceable is identified in the draft Title V permit as such.

This facility has been found to be subject to the requirements set forth in items Aa, b, and c@above.

REQUEST FOR VARIANCES OR ALTERNATIVES:

None

COMMENT PERIOD:

The public notice appeared in the Martinsville BULLETIN on November 4, 2001.

Beginning Date: November 4, 2001

Ending Date: December 5, 2001

Department of Environmental Quality
West Central Regional Office
3019 Peters Creek Road
Roanoke, VA 24019

PROCEDURE FOR REQUESTING PUBLIC HEARING:

During the public comment period any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for a public hearing shall be in writing to the above address and shall state the nature of the issues proposed to be raised in the hearing. The Director shall grant such a request for a hearing if he concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.